033 One Transistor Radio

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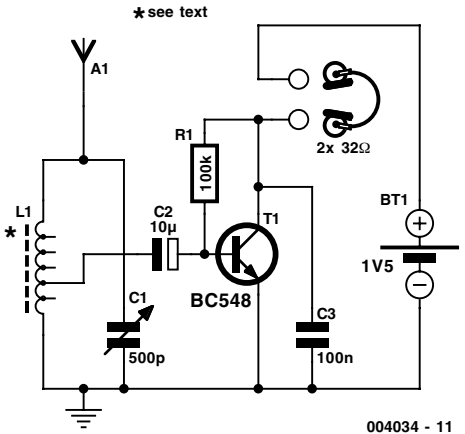
Here is a simple circuit for a one transistor Audion type radio powered by a 1.5 V battery. It employs a set of standard low-impedance headphones with the headphone socket wired so that the two sides are connected in series thus giving an impedance of 64 Ω. The supply to the circuit also passes through the headphones so that unplugging the headphones turns off the supply. Using an Audion configuration means that the single transistor performs both demodulation and amplification of the signal. The sensitivity of this receiver is such that a 2 m length of wire is all that is needed as an antenna. The tap on the antenna coil is at 1/5th of the total winding on the ferrite rod. For details of the antenna coil see the article *Diode Radio for Low Impedance Headphones*. This circuit is suitable for reception of all AM transmissions from longwave through to shortwave.

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